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ABSTRACT

A study was done to determine if a relationship exists between different scheduling formats and the academic achievement of graduate students studying elementary and secondary education. Academic achievement was defined as the average score on two informal (teacher made) objective tests given during the course. The study tested three different scheduling formats for a course, "Introduction to Research": (1) at night during the regular school year; (2) on a weekend college basis which meets four times each semester; and (3) during the summer of 8 weeks. All 3 formats required a total of 43 hours of instructional time. The data were gathered over a 3-year period from 543 students. The findings indicated that there were no significant differences in academic achievement between the different scheduling formats. Although there were some isolated differences in scores between the three groups, academic achievement did not appear to be affected by the format. Summer classes seemed to do slightly better than the other groups. Included are three tables and nine references. (JB)

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THE RELATIONSHIP BETWEEN CLASS SCHEDULING FORMATS
AND THE ACADEMIC ACHIEVEMENT OF GRADUATE STUDENTS

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THE RELATIONSHIP BETWEEN CLASS SCHEDULING FORMATS AND THE ACADEMIC ACHIEVEMENT OF GRADUATE STUDENTS

The nation's first weekend college format was introduced at Miami-Dade Junior College in the fall of 1964 with its Saturday-only program (Congressional Record, 1966). Since then many variations have been used at all educational levels. In 1979 Indiana University-Purdue University instituted the "Learn & Shop" Office in which regular academic college courses were offered in shopping centers (East, 1984). The College of Notre Dame of Maryland offers a weekend college baccalaureate program for registered nurses (Davis, et al., 1984).

Many Universities offer flexible scheduling to complement their students' busy working schedules. Wayne State University offers a Bachelor of General Studies degree through its Life Long Learning program to the college graduate who wants further education and to working adults who never attended college (Feinstein & Angelo, 1983).

According to Goor (1980), the U.S. Department of Education's National Center for Education Statistics reported that almost 75 percent of the baccalaureate degree-granting institutions offered degree-credit courses in evenings or on weekends. It estimated that 29 percent of all institutions offered enough evening and weekend courses to fulfill all requirements for a degree.

At Central Missouri State University the schedule of MSE candidates, the majority being public school educators, is being accommodated through the offerings of courses at night, on the weekend and during the summer. Central's Weekend College program has been the subject of two different studies: (a) Central's program was presented by Morton (1977) as a case study in his dissertation, A Profile of Weekend College Programming by Members of the American Association of State Colleges and Universities; and (b) Breshears and Morton (1976) discussed the success of the program in their article for School & Community, titled "Central Missouri State University Weekend College: It Works".

A consensus of the research tends to address: (a) the needs for alternative scheduling, (b) the aspects to consider when developing such a program, and (c) the characteristics of the "typical" student enrolled in such a program. However, little research has been conducted which addresses the equity of such an alternative program in terms of academic quality. Although this arrangement appears to be a practical solution for many individuals in many different circumstances, it may not be an equitable one in terms of opportunities for learning.

The purpose of this research was to determine if a relationship exist between different scheduling formats and the academic achievement of graduate students. Academic achievement was defined as the average score on two informal (teacher-made) objective tests given during

the course.

Procedure:

The Department of Curriculum and Instruction at Central Missouri State University requires all MSE candidates (those who have declared a major in elementary or secondary education) to take a three hour graduate course titled "Introduction to Research" (EDCI 5900). This course is offered in three different formats: (1) at night during the regular school year, (2) on a weekend college basis which meets four times each semester, and (3) during the summer for eight weeks. All three formats require a total of 43 hours of instructional time (reflecting a three-hour graduate class). Two major exams are administered during the course. Both exams are 80 percent objective (multiple-choice) with essay making up the remaining 20 percent. The exams make up approximately 40 percent of the students' final grade.

Format Description:

Night Class: The night class is scheduled for 15 sessions during the regular semester. Each session is two hours and 15 minutes. The Fall class is scheduled for Wednesday night; the Spring class traditionally meets on Tuesday night.

Weekend College: The weekend college meets four times during the course of the semester. The sessions are from 6:00 p.m. to 10:30 p.m. on Friday night and 8:00 a.m. to 3:30 p.m. on Saturday.

Summer Class: Summer school sessions run for eight weeks. The class meets four days a week (Monday-Thursday) for 85 minutes - there are usually three different sections offered.

Analysis:

The data were gathered over a three-year period from 543 graduate students: (1) 139 night class, (2) 139 weekend college, (3) 265 summer school. The data were treated with a One-Way ANOVA (Analysis of Variance) to ascertain any statistical difference between the groups' means scores on the two tests. (See Table 1). Statistical significance was established at .05 alpha level. To identify the possible influence of semester differences, an independent t-test was performed on the mean scores of the night classes and the weekend college classes. (See Table 2 and Table 3).

The hypothesis was stated in the null: There would be no difference in academic achievement between the three different groups of students.

Findings of the Study:

The mean scores of the three groups provided the information necessary to test the hypothesis. The results of the findings are presented in Table 1.

Table 1

Mean Performance Scores of Graduate Students in Night, Weekend College and Summer Classes

<u>Tests</u>	<u>Format</u>						F Ratio	Significance
	Night n=139		Weekend n=139		Summer n=265			
	M	SD	M	SD	M	SD		
Test I	84.2	8.5	83.3	10.0	83.9	11.7	0.30	0.748
Test II	83.7	8.2	82.9	9.7	85.8	10.9	4.62	0.01*
Mean	84.0	7.5	83.0	9.0	85.1	9.5	2.80	0.059

* $p < .05$.

There is a statistically significant difference in the Test II mean scores of the three groups. The summer school scores ($M = 85.8$) are clearly higher than the other two groups (Night $M = 83.7$ and Weekend College $M = 82.9$).

To identify the possible interaction effects of semester differences, an independent t-test was performed on the mean scores of the night class group and the weekend college group. This information is provided in Table 2 and Table 3.

Table 2

Mean Performance Scores of Graduate Students Taking a Night Class During Different Semesters

Test	Semester				T-Value	Probability (One-Tailed)
	Fall n=79		Spring n=60			
	M	SD	M	SD		
Test I	85.3	7.8	82.9	10.2	1.584	0.056
Test II	83.8	7.8	83.6	8.7	0.107	0.456
Mean	84.6	6.6	83.2	8.5	1.083	0.140

There is no statistically significant difference in scores; however the mean scores of the fall group are higher in both (Test I and Test II) testing situations. This pattern is clearly apparent in Test I (Fall $M = 85.3$ and Spring $M = 82.9$).

Table 3

Mean Performance Scores of Graduate Students Taking a Weekend College Class During Different Semesters

Test	Semester				T-Value	Probability (One-Tailed)
	Fall n=79		Spring n=60			
	M	SD	M	SD		
Test I	82.8	10.3	84.4	9.0	0.858	0.201
Test II	82.5	9.7	83.7	9.6	0.638	0.266
Mean	82.6	9.3	83.9	8.6	0.765	0.227

There is no statistically significant difference in scores; however converse to the night classes (See Table 2), the mean scores of the spring classes are higher in both testing situations (Test I and Test II).

Conclusions:

The null hypothesis is accepted. Although there were some isolated differences in scores between the three groups, academic achievement (as indicated by the objective measures used) does not appear to be affected by the format. The summer classes appear to do better, but this could be due to the nature of the season affecting the attitudes of both the instructor and the students. Because most of these individual students are teachers, they are not presented with the deadlines and pressures of a regular work schedule. In addition, the summer sessions have the opportunity for more monitoring and feedback. The eight week (four days a week) summer sessions provide more of an intensive approach than the other two formats.

The greatest concern expressed by summer students is the lack of access to the library facilities. The number of students (almost twice as many as the other two formats) tends to put a strain on the computer information retrieval systems available.

Recommendations:

The three modes of instruction are geared to provide options for working graduate students. These three options seem to work well at Central Missouri State University. Although they are

designed for the graduate student, there does not appear to be any reason why they would not be suitable and educationally equitable for any student who wishes to pursue a degree while continuing other work.

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